

WHAT IS CLAIMED IS:

1. A liquid crystal display, comprising:

a first substrate including a first electrode and a second electrode formed thereon;

a second substrate including a third electrode formed thereon, wherein the second substrate is spaced apart from the first substrate by a gap; and

at least one cutout formed in the third electrode, wherein the at least one cutout is aligned with a space between the first and second electrodes.

2. The liquid crystal display as recited in claim 1, wherein the first electrode is a first pixel electrode, the second electrode is a second pixel electrode and the third electrode is a common electrode.

3. The liquid crystal display as recited in claim 1, wherein the gap includes a liquid crystal layer configured for housing liquid crystal molecules, and the at least one cutout includes a first edge aligned parallel to an edge of the first electrode and a second edge aligned parallel to an edge of the second electrode.

4. The liquid crystal display as recited in claim 3, wherein a component of an electric field generated between the third and the first and second electrodes for causing a change in tilt direction of the liquid crystal molecules aligns at least one of perpendicular to the first edge of the cutout, perpendicular to the second edge of the cutout, perpendicular to the edge of the first electrode and perpendicular to the edge of the second electrode.

5. The liquid crystal display as recited in claim 1, wherein the at least one cutout has width within the range of about 9 to about 12 microns.

6. The liquid crystal display as recited in claim 1, further comprising:

5 a plurality of data lines for transmitting data voltages formed on the first substrate; and

at least one other cutout formed in the third electrode, wherein the at least one other cutout is aligned with at least one data line of the plurality of data lines.

10 7. The liquid crystal display as recited in claim 3, wherein an electric field is generated between the first and second electrodes, and a direction of the electric field is at least one of perpendicular to the first edge of the at least one cutout and perpendicular to the second edge of the at least one cutout.

15 8. The liquid crystal display as recited in claim 1, wherein a voltage having an opposite polarity with respect to a voltage applied to the third electrode is applied to one of the first electrode and the second electrode and an electric field is generated between the first electrode and the second electrode.

20 9. The liquid crystal display of claim 8, wherein the electric field is due to a voltage difference between the first electrode and the second electrode.

10. The liquid crystal display as recited in claim 1, further comprising:

at least one gate electrode formed on the first substrate; and

25 at least two transistors formed on the first substrate and symmetrically

disposed about the at least one gate electrode for creating a non-varying parasitic capacitance between the at least one gate electrode and at least two drain electrodes of the at least two transistors across a plurality of shots of the first substrate.

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11. The liquid crystal display as recited in claim 10, wherein a pair of the symmetrically disposed transistors includes the at least one gate electrode, at least one source electrode, the at least two drain electrodes and at least one semiconductor island.

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12. The liquid crystal display as recited in claim 1, further comprising a plurality of data lines for transmitting data voltages formed on the first substrate, wherein the first and second electrodes are symmetrically disposed about at least one data line of the plurality of data lines for creating a non-varying parasitic capacitance between the first and second electrodes and the at least one data line across a plurality of shots of the first substrate.

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13. The liquid crystal display as recited in claim 1, further comprising:
a plurality of gate lines for transmitting gate signals formed on the first substrate;
a plurality of storage electrode lines for transmitting at least one predetermined voltage formed on the first substrate; and
a plurality of data lines for transmitting data voltages formed on the first substrate.

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14. The liquid crystal display as recited in claim 13, wherein at least one of the first electrode and the second electrode is positioned in an area enclosed by the plurality of gate lines, the plurality of storage electrode lines and the plurality of data lines.

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15. The liquid crystal display as recited in claim 13, wherein at least one of the first electrode and the second electrode overlap at least one data line of the plurality of data lines.

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16. The liquid crystal display as recited in claim 13, wherein the plurality of data lines intersect the plurality of gate lines and the plurality of storage lines.

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17. The liquid crystal display as recited in claim 13, wherein each data line of the plurality of data lines is curved and includes a plurality of pairs of oblique portions connected to each other to form a chevron.

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18. The liquid crystal display as recited in claim 17, wherein opposite ends of the oblique portions are connected to respective longitudinal portions that cross over gate electrodes.

19. The liquid crystal display as recited in claim 18, wherein a length of each pair of the oblique portions is about one to about nine times a length of a longitudinal portion.

20. The liquid crystal display as recited in claim 13, wherein at least one of the plurality of gate lines, the plurality of storage electrode lines and the plurality of data lines includes tapered sides, wherein an incline angle of the tapered sides with respect to a horizontal surface of the first substrate is within the range of about 30 to about 80 degrees.

21. The liquid crystal display as recited in claim 13, wherein at least one of the plurality of gate lines, the plurality of storage electrode lines and the plurality of data lines includes a lower film and an upper film.

22. The liquid crystal display as recited in claim 21, wherein the upper film includes one of aluminum and an aluminum alloy and the lower film includes one of chromium, molybdenum and a molybdenum alloy.

23. The liquid crystal display as recited in claim 1, further comprising:
a plurality of storage electrodes formed on the first substrate; and
a plurality of drain electrodes formed on the first substrate, wherein at least one pair of drain electrodes of the plurality of drain electrodes overlaps at least one pair of storage electrodes of the plurality of storage electrodes.

24. The liquid crystal display as recited in claim 1, further comprising:
a plurality of drain electrodes formed on the first substrate, wherein the first electrode and the second electrode are respectively connected to a first drain electrode and a second drain electrode of the plurality of drain electrodes, and the first electrode and the second electrode receive data voltages from the first drain

electrode and the second drain electrode, respectively.

25. The liquid crystal display as recited in claim 1, further comprising a plurality of color filters formed on one of the first substrate and the second substrate, wherein two adjacent color filters of the plurality of color filters overlap each other.

26. The liquid crystal display as recited in claim 1, further comprising:
a gate insulating layer formed on the first substrate;
a plurality of semiconductor islands formed on the gate insulating layer;
a plurality of ohmic contacts formed on the semiconductor islands;
a plurality of data lines for transmitting data voltages formed on at least one of the ohmic contacts and the gate insulating layer; and
a plurality of drain electrodes formed on the ohmic contacts, wherein the semiconductor islands have essentially the same planar shapes as at least one of the data lines, the drain electrodes and the ohmic contacts.

27. The liquid crystal display as recited in claim 1, further comprising:
a gate insulating layer formed on the first substrate;
a plurality of semiconductor islands formed on the gate insulating layer;
a plurality of ohmic contacts formed on the semiconductor islands;
a plurality of data lines for transmitting data voltages formed on at least one of the ohmic contacts and the gate insulating layer; and
a plurality of drain electrodes formed on the ohmic contacts, wherein the data lines, the drain electrodes, the semiconductor islands and the ohmic contacts are simultaneously formed using one photolithography process.

28. A liquid crystal display, comprising:

a first substrate including a first electrode and a second electrode formed thereon;

5 a second substrate including a third electrode formed thereon, wherein the second substrate is spaced apart from the first substrate by a gap;

at least one gate electrode formed on the first substrate; and

at least two transistors formed on the first substrate and symmetrically disposed about the at least one gate electrode.

10 29. The liquid crystal display as recited in claim 28, wherein the first electrode is a first pixel electrode, the second electrode is a second pixel electrode and the third electrode is a common electrode.

15 30. The liquid crystal display as recited in claim 28, wherein a pair of the symmetrically disposed transistors includes the at least one gate electrode, at least one source electrode, at least two drain electrodes and at least one semiconductor island.

20 31. The liquid crystal display as recited in claim 28, further comprising a plurality of data lines for transmitting data voltages formed on the first substrate, wherein the first and second electrodes are symmetrically disposed about at least one data line of the plurality of data lines.

25 32. The liquid crystal display as recited in claim 28, further comprising at least

one cutout formed in the third electrode, wherein the at least one cutout includes a first edge aligned parallel to an edge of the first electrode and a second edge aligned parallel to an edge of the second electrode.

5 33. The liquid crystal display as recited in claim 32, wherein the at least one cutout is aligned with a space between the first and second electrodes.

34. The liquid crystal display as recited in claim 32, wherein a component of an electric field generated between the third and the first and second electrodes for
10 causing a change in tilt direction of liquid crystal molecules aligns at least one of perpendicular to the first edge of the cutout, perpendicular to the second edge of the cutout, perpendicular to the edge of the first electrode and perpendicular to the edge of the second electrode.

15 35. The liquid crystal display as recited in claim 32, wherein the at least one cutout has width within the range of about 9 to about 12 microns.

36. The liquid crystal display as recited in claim 32, wherein an electric field is generated between the first and second electrodes, and a direction of the electric
20 field is at least one of perpendicular to the first edge of the at least one cutout and perpendicular to the second edge of the at least one cutout.

37. The liquid crystal display as recited in claim 28, further comprising:
a plurality of data lines for transmitting data voltages formed on the first
25 substrate; and

at least one cutout formed in the third electrode, wherein the at least one cutout is aligned with the at least one data line.

38. The liquid crystal display as recited in claim 28, wherein a voltage having an opposite polarity with respect to a voltage applied to the third electrode is applied to one of the first electrode and the second electrode, and an electric field is generated between the first electrode and the second electrode.

39. The liquid crystal display of claim 38, wherein the electric field is due to a voltage difference between the first electrode and the second electrode.

40. A liquid crystal display, comprising:

a first substrate including a first pixel electrode and a second pixel electrode formed thereon; and

a second substrate including a common electrode formed thereon, wherein the second substrate is spaced apart from the first substrate by a gap, and a voltage having an opposite polarity with respect to a voltage applied to the common electrode is applied to one of the first pixel electrode and the second pixel electrode to generate an electric field between the first pixel electrode and the second pixel electrode having a direction which coincides with a component of an electric field generated between the common electrode and the first and second pixel electrodes.

41. A liquid crystal display, comprising:

a first substrate including a first electrode and a second electrode formed thereon;

a second substrate including a third electrode formed thereon, wherein the second substrate is spaced apart from the first substrate by a gap; and

at least one cutout formed in the third electrode, wherein the at least one cutout includes a first edge aligned parallel to an edge of the first electrode and a second edge aligned parallel to an edge of the second electrode.

42. A liquid crystal display, comprising:

a first substrate including a first electrode and a second electrode formed thereon;

a second substrate including a third electrode formed thereon, wherein the second substrate is spaced apart from the first substrate by a gap; and

a plurality of data lines for transmitting data voltages formed on the first substrate, wherein the first and second electrodes are symmetrically disposed about at least one data line of the plurality of data lines.